

Poliomyelitis Immunization House to House

WILLIAM A. ALLEN, M.P.H., AND MICHAEL J. BURKE, M.A.

WHAT results can be obtained by a house-to-house poliomyelitis campaign among "hard-to-reach" groups?

This question had been raised a number of times by staff members of the Philadelphia Department of Public Health. When in the summer of 1959 it appeared that immunization was lagging in sections of the city where poliomyelitis incidence was highest, it was decided to conduct a house-to-house program through the use of four mobile teams.

A number of extensive immunization programs had been conducted in prior years in Philadelphia. As in many other communities throughout the country, the poliomyelitis immunization program was initiated in April 1955, as soon as the Salk vaccine was released.

The first phase was directed toward inoculating children in the first and second grades of public, parochial, and private schools. From the inception of this program, there was excellent cooperation between the Philadelphia Department of Public Health and the medical divisions of the public and parochial schools.

Every year since 1955, the schools have conducted intensive inoculation programs with vaccine furnished by the health department. Age restrictions were gradually modified so that, eventually, the immunizations were made available to children in all grades. The health department provided the personnel for the administration of the parochial school program. The public schools, however, supplied their own personnel for their program.

Mr. Allen is director of the division of health education and Mr. Burke, statistical epidemiologist, Philadelphia Department of Public Health.

All vaccine used by the schools in 1955, 1956, and 1957 was supplied by the health department either through its own budget or by allocation from Federal or State sources. In 1958 and 1959, however, in addition to the city supply, the Philadelphia Chapter of the National Foundation gave the department 100,000 cc. of vaccine, some of which was used by the schools. In the spring of 1959, the public schools purchased additional vaccine for their use.

In the summer of 1956, again with the cooperation of the schools, the health department organized 10 teams, 1 in each of the 10 health districts into which the city is divided. These teams moved from one school to another each day. They inoculated 110,000 children. The teams worked in 113 public and parochial schools immunizing children under 15 years of age and expectant mothers. By working through the schools to bring the program to the people in their neighborhoods, great numbers of previously unvaccinated persons were reached. At the same time, daily inoculations were given in the health centers.

In 1957 the health department, the Hospital Council, and the Philadelphia County Medical Society jointly conducted inoculation clinics in 10 private hospitals strategically located throughout the city. These clinics were held on 4 Saturdays selected so that an individual could receive at least two inoculations.

Members of the county medical society volunteered their services to staff the clinics. Volunteer clerical workers from the local chapter of the National Foundation and hospital and health department personnel completed the clinic staffs. During this phase of the program, which provided immunizations for persons 40

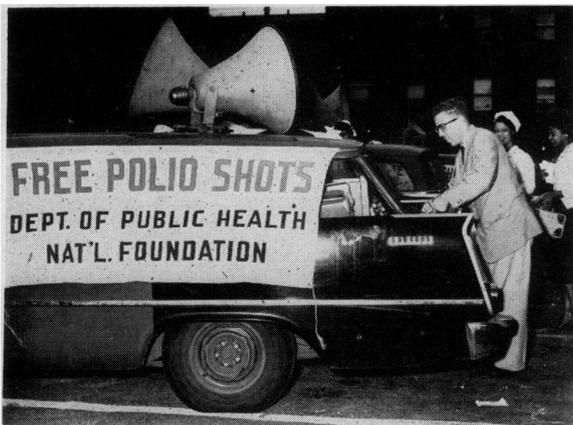
years of age and under, almost 75,000 persons were inoculated.

On the first Saturdays of February and March 1958, inoculations were offered at 10 public and parochial school sites to persons through 40 years of age. Vaccine, as well as a number of volunteer workers, was supplied by the local chapter of the National Foundation. Most of the staff, however, came from the health department. Because inclement weather limited the total number immunized to less than 40,000, the health department had a large amount of unused vaccine. The department made it available to universities, colleges, seminaries, professional schools, and technical and vocational schools.

In the summer of 1958, daily inoculation sessions were held in district health centers for all persons 40 years of age and under. Night sessions for persons in these age groups were conducted during August, September, and October.

In all of these programs the department noted that the response was poorest in areas of the city having the lowest economic standards and the most congested living conditions.

Since 1955, Salk vaccine has been distributed upon request to hospitals for their prenatal and pediatric clinics. In 1959, for example, vaccine was distributed to 36 hospitals and to private physicians for the inoculation of their patients who could not afford the cost of the vaccine. The hospitals and the physicians were required to submit a form for each inoculation administered.



Mobile teams traveled in loudspeaker-equipped station wagons, which also carried supplies

Despite all efforts to raise the immunization level of the city to a satisfactory level, 77 cases of poliomyelitis, including 2 deaths, occurred in 1958. This represented a sharp rise over the previous year and was the greatest number of cases recorded in the city since pre-Salk days. In 1954, there had been 228 cases. The number of cases in 1955 was 42, and in 1956 the number declined to 16. In 1957, only 10 cases were recorded in the city.

Of the 77 cases which occurred in 1958, 39 cases, or 50.7 percent, were in health districts 5 and 6, which had an attack rate of 9.1 per 100,000 population. In comparison, the remainder of the city had 38 cases, or 49.3 percent, an attack rate of 2.1 per 100,000. The overall attack rate for Philadelphia was 3.5 per 100,000 population.

Late in 1958, the department reviewed the effectiveness of the various immunization programs which had been undertaken. Based upon statistical data gathered from school programs, special programs, and district clinics, estimates were made regarding the general immunization status of the city. It became apparent that additional efforts were needed to motivate residents in health districts 5 and 6 to protect their children and themselves against poliomyelitis and to prevent the possible development of an epidemic in the city.

Districts 5 and 6 are bounded by the Delaware and Schuylkill Rivers and extend from Vine Street on the south to Lehigh Avenue on the north. They are characterized by substandard housing, low incomes, and a greater incidence of other diseases such as tuberculosis and venereal disease. These districts also have a higher infant mortality rate than the city as a whole and many other social and economic ills.

Because of the apparent failure to gain response in these districts to the previous inoculation campaigns and the upsurge of poliomyelitis incidence in 1958, most of which occurred in this area, the health department decided to direct its attention to methods aimed at the "hard-to-reach" groups.

Accordingly, early in 1959 special methods were used. Thousands of specially designed leaflets and posters were distributed, volunteers visited homes in the neighborhoods, and sound



A crowd forms around a team giving inoculations on a Philadelphia street corner

trucks toured the neighborhoods announcing the free inoculations in the clinics. All of these efforts were directed at getting residents to come to the established clinics.

Because of the wide variety in the backgrounds of residents of the city including economic, cultural, and ethnic differences, a number of different motivational approaches were used, especially among the "hard-to-reach" groups.

Within a few weeks it was evident that this program, aimed at providing free inoculations to children under 7 years of age and expectant mothers, was lagging despite the intensive efforts to encourage residents to participate.

With the poliomyelitis season approaching

and realization that the "hard core area" had not been reached adequately, plans were made to bring the program to the people through the use of mobile teams operating on a door-to-door basis in districts 5 and 6.

Several planning meetings of representatives from public health nursing, epidemiology, health education, and other divisions were held to pave the way for the kickoff of the new program.

Four teams were organized to work in these districts. The teams traveled in station wagons which were equipped with vaccines, syringes, and other supplies. Banners announcing the free injections were prominently displayed on the vehicles, and loudspeakers were mounted on



At the district health center the teams laid final plans for the evening's operations

the roofs. Personnel for each team consisted of a physician to give the injections, a public health nurse to go from door to door to tell residents about the availability of the inoculations and to answer questions, a graduate nurse to fill syringes and assist the physicians, a health educator to organize in advance and coordinate a volunteer corps to assist in the home visits, a clerk to register persons requesting inoculations, and a disease control investigator or sanitarian to drive the station wagon and to make announcements over the loudspeaker.

The local chapter of the National Foundation supplied funds to rent sound equipment and produce the tape recordings which were used in addition to live announcements. A well-known soft drink company provided containers to refrigerate vaccine, and a sound equipment company provided additional loudspeakers.

The newly constructed health center in district 6 was selected as headquarters for the program. This center has an excellent physical plant with adequate storage facilities. It has a large parking lot which permits easy loading of vehicles, and in addition, it is convenient to

good transportation facilities to all parts of the city, which facilitated the travel of persons staffing the program.

The house-to-house program was initiated July 6 and continued through September 11. Hours of operation were between 5:30 and 7:30 p.m., Mondays through Fridays. Because teams continued to work until everyone wishing an injection had been immunized, the teams frequently did not return to the headquarters until 9 p.m.

In order to speed the registration procedure, no forms were filled out for adults. For children under 21, it was requested that parents complete a parental consent form. When parents were unable to come to the mobile unit, children were given a parental consent form and were immunized when they returned the completed forms.

When the house-to-house program began, immunizations were offered only to children under 7 years of age and expectant mothers. Because of the difficulty of limiting the inoculations to this age group, the program was expanded to provide immunizations for persons of all ages.

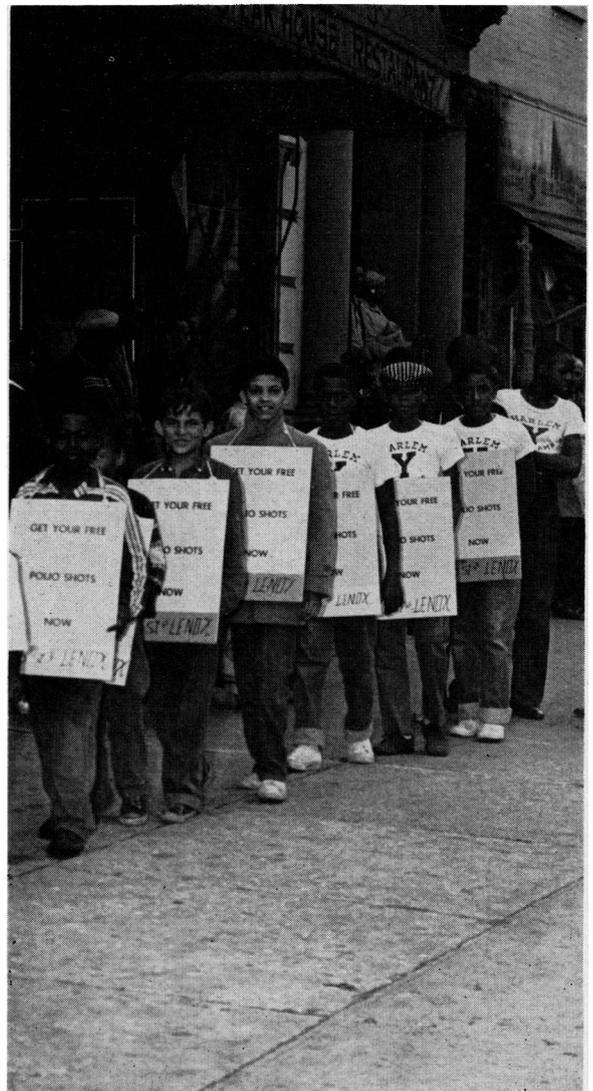
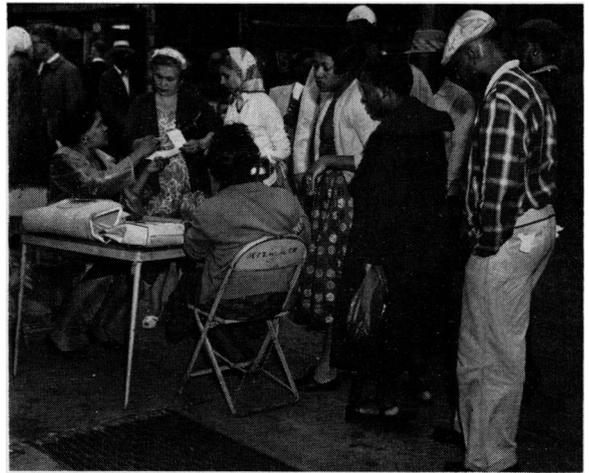
In the actual operation, a team sometimes proceeded along a particular street, stopping often to give injections. Frequently, however, it was more advantageous to park the vehicle for long periods and administer the vaccine from a strategically situated parking lot or street corner.

During the 10 weeks that the program was in operation, 37,879 individuals were inoculated. Of this number, 21,326, or 56.3 percent, received their first inoculation; 7,297, or 19.3 percent, their second; 5,348, or 14.1 percent, their third; and 3,908, or 10.3 percent, their fourth. By age distribution, 12,363, or 32.6 percent, were under 7 years of age; 6,777 or 17.9 percent were 7 through 14 years; 1,823 or 4.8 percent were 15 through 18 years; and 16,916 or 44.7 percent were 19 years of age or older.

Since more than 75 percent of the inoculations were given to preschoolers and to persons more than 19 years of age, the program was effective in reaching susceptible age groups as well as groups in which the immunization level was considered to be extremely low.

Although it is felt that the house-to-house approach was successful in immunizing many people who would not otherwise have been reached, several disappointments were encountered. During the campaign, eight cases of paralytic poliomyelitis and one nonparalytic case occurred in Philadelphia, all of them in health districts 5 and 6 where the mobile teams were operating. The fourth, fifth, sixth, seventh, and eighth cases occurred almost within the shadows of the mobile units. None of the persons with the disease had availed themselves of the vaccine.

The success of the campaign, however, is indicated by the fact that the incidence of polio-



. . . and in New York City

Two mobile clinics began giving free poliomyelitis inoculations in August 1959. The clinics, set up in trucks loaned by the city's civil defense office, operated from 1 to 6 p.m. for 10 weeks and moved to a new location each day. *Above:* At 125th Street and Lenox Avenue health department staff members register those to be vaccinated. *Right:* Harlem children wearing sandwich boards help to publicize the clinic's visit in their neighborhood.

myelitis in Philadelphia in 1959 was approximately 73 percent under the incidence for 1958. For the Nation as a whole the incidence of poliomyelitis was up almost 42 percent in 1959.

It seems evident that the house-to-house approach, by providing immunizations for "hard-to-reach" groups in their neighborhoods, played a prominent part in cutting the toll of poliomyelitis in Philadelphia.

Summary and Conclusions

Since 1955 when the Salk vaccine was released, the Philadelphia Department of Public Health has conducted a continuing poliomyelitis immunization program which has had a number of different phases. Cooperating in these various phases have been the public and parochial schools, the Philadelphia County Medical Society, the hospitals, and the local chapter of the National Foundation.

During the program, many of the well-established techniques to motivate residents to become inoculated were used. The department staff noted that, although response to various phases of the program was great in many higher income areas of the city, the response in certain of the lower income, highly congested areas was almost invariably poor.

Although the incidence of poliomyelitis was relatively low in 1955, 1956, and 1957, an upsurge of the disease occurred in 1958 when there were 77 cases, including 2 deaths. An analysis of the immunization situation made by the department staff late in 1958 led to the conclusion

that a renewed effort was required to increase participation in the program among the residents in health districts 5 and 6, the area in which most of the 1958 victims lived.

A special program was instituted early in 1959 to encourage the groups most susceptible to poliomyelitis to become immunized at the regular health department clinics in districts 5 and 6.

When this program lagged in the spring of the year, the health department staff, realizing that adequate immunization had not been gained and faced with the threat of a possible epidemic or outbreak, organized a special house-to-house immunization campaign in which mobile teams toured the neighborhoods in health districts 5 and 6 for a 10-week period, July 6 through September 11.

During this effort, 37,879 persons were immunized. The results of the house-to-house campaign revealed that this type of direct approach, particularly to groups which do not respond to the usual approaches, can be of great value in increasing participation in immunization programs. Of the people responding to the campaign, the majority were in the age groups most susceptible to poliomyelitis and in which the immunization level was particularly low.

Detailed planning and close cooperation of all health department organizational units, as well as close cooperation with groups in the community, are essential in any program of this type.

Kurlander, Assistant Surgeon General

Arnold B. Kurlander, M.D., formerly deputy chief of the Bureau of Medical Services, Public Health Service, has been named Assistant Surgeon General. He will assist the Surgeon General on current program matters, facilitate communications between the four bureaus of the Service and the Surgeon General's office, and expedite the handling of program aspects of operating problems.